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ART UNIT		PAPER NUMBER		
2174				
NOTIFICATION DATE		DELIVERY MODE		
09/29/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptotpa@gray-robinson.com

### Office Action Summary

**Application No.**

10/710,910

**Applicant(s)**

HOFSTADER ET AL.

**Examiner**

SAJEDA MUHEBBULLAH

**Art Unit**

2174

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on BPAI Decision filed 5/26/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 defines a “screen reader software product comprising” a plurality of “modules.” However, the instant specification discloses the “software product” as a “software application,” where the “modules” are merely the components of the “application” for performing the functions recited in the claims. For example, see paragraphs [0007] to [0010].

Accordingly, the claimed “software product” is deemed to be non-statutory subject matter under 35 U.S.C. 101 since it defines nothing more than computer software/program per se, where software/program per se is neither a “process,” a “machine,” a “manufacture,” nor a “composition of matter.”

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Raman (US 6,289,312).

As per claim 1, Raman teaches a screen reader software product comprising:

a screen reader module (Fig.2, col.4, lines 16-17; *aural portion 124 generates audible output*) communicatively coupled with resident software (Fig.2, *application 100*) on a computer, the reader module adapted to collect textual and non-textual display information generated by the resident software (col.3, line 66-col.4, line 3; *non-textual display information is the control information used to format appearance of text such as bolding or font*);

a broadcast module (*software module which takes the output of aural portions 124*) communicatively coupled to the reader module, the broadcast module adapted to communicate the display information collected by the reader module to an output device (col.4, lines 16-18; *aural portions produces audible output to a speech synthesizer*); and

a schema module (Fig.3, *speech modifier modules 360*) communicatively coupled to the broadcast module, the schema module adapted to send non-textual display information with associated textual display information to the output device in substantially concurrent fashion (col.5, lines 5-19; 43-44; *core and modifier modules work concurrently to alter the speech output by audibly outputting non-textual display information such as bolding, underlining, font, etc. via the modifier modules along with the textual display information via the core modules*).

As per claim 2, Raman teaches the output device to be a speech synthesizer (Fig.2, *speech synthesizer 160*; col.4, lines 17-18).

As per claim 3, Raman teaches the software product wherein the non-textual display information is selected from the group consisting of font format, paragraph format, bulleting, numbering, borders, shading, column format, page breaks, section breaks, tab settings, table

structure, image data, case settings, comment field locations, hyperlink settings, data entry forms, and graphic user interface configuration (col.5, lines 11-15; *font format*).

As per claim 4, Raman teaches the software product wherein the schema module modifies the broadcast of the textual display information to communicate the non-textual display information by altering characteristics of the speech synthesizer, the characteristics selected from the group consisting of pitch, speed, volume, emphasis, simulated gender, simulated accent, simulated age, and pronunciation (Fig.3, *modifier module 360 alter characteristics of speech synthesizer 160 such as by altering pitch or simulated gender voices*; col.5, lines 13-19).

As per claim 5, Raman teaches the software product wherein the schema module includes an additional audio output layer to the broadcast of the textual display information to audibly communicate the non-textual display information in substantially concurrent fashion with the synthesized text (col.5, lines 31-39; *different background audio tracks may be outputting concurrently with outputted textual display*).

As per claim 6, Raman teaches the software product wherein the additional audio output layer broadcasts a pre-selected sound associated with the non-textual display information (col.5, lines 5-39; *speech modifier modules 360 associates pre-selected sounds with a particular non-textual display such as bolding associated with a deep male voice*).

As per claim 8, Raman teaches the software product wherein pre-selected sound is selected from the group consisting of dynamically generated sound and prerecorded digital audio (claim 7, *preprogrammed sound*).

As per claim 9, Raman teaches the software product wherein the schema module includes a plurality of additional audio outputs layer to the broadcast of the textual display information to

audibly communicate a corresponding plurality of non-textual display information in substantially concurrent fashion with the synthesized text (col.5, lines 31-40).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raman (US 6,289,312) in view of Nielsen (US 5,899,975).

As per claim 7, Raman teaches the product wherein a preselected sound is associated with non-textual display information (col.5, lines 5-39; *speech modifier modules 360 associates pre-selected sounds with a particular non-textual display such as bolding associated with a deep male voice*). However, Raman does not explicitly teach the preselected sound to be end-user-definable. Nielsen teaches a product for audibly outputting textual and non-textual display information concurrently wherein a pre-selected sound associated with non-textual display information is end-user-definable (Nielsen, col.6, lines 13-17; col.7, lines 42-47; *associated sounds may be previously defined by user set inside the stylesheets*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Nielsen's teaching with Raman's product in order to suit the preferences of different users.

Claim 17 is similar in scope to the combination of claims 3-4, and is therefore rejected under similar rationale. Raman does not disclose the schema module being an end user definable schema module. Nielsen teaches the additional limitation of an end-user-definable schema Nielsen (col.6, lines 13-17; col.7, lines 42-47; *associated sounds may be previously defined by user set inside the stylesheets*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Nielsen's teaching with Raman's product in order to suit the preferences of different users.

Claim 18 is similar in scope to the combination of claims 3 and 8, and is therefore rejected under similar rationale. Raman does not disclose the schema module being an end user definable schema module. Nielsen teaches the additional limitation of an end-user-definable schema Nielsen (col.6, lines 13-17; col.7, lines 42-47; *associated sounds may be previously defined by user set inside the stylesheets*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Nielsen's teaching with Raman's product in order to suit the preferences of different users.

Claim 19 is similar in scope to claim 1, and is therefore rejected under similar rationale. Raman does not disclose the schema module being an end user definable schema module. Nielsen teaches the additional limitation of an end-user-definable schema Nielsen (col.6, lines 13-17; col.7, lines 42-47; *associated sounds may be previously defined by user set inside the stylesheets*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Nielsen's teaching with Raman's product in order to suit the preferences of different users.

As per claim 20, the product of Raman and Nielsen teaches wherein a plurality of end-user schema definitions (Nielsen, col.5, lines 58-59; col.7, lines 16-22; *plurality of style sheets may be combined to produce synthesized text*) are assignable to specific resident software applications (Raman, col.4, lines 45-47).

As per claim 21, the product of Raman and Nielsen teaches end-user schema definitions generated by an end user to be shareable with other users (Nielsen, col.6, lines 13-17; *associated sounds may be previously defined by user or stylesheets of other users may be used*).

As per claim 22, the product of Raman and Nielsen teaches wherein the non-textual display information is selected from the group consisting of hyperlink settings, data entry forms, and graphic user interface configuration (Raman, col.5, lines 20-27).

As per claim 23, the product of Raman and Nielsen teaches the software product wherein the non-textual display information is style information (Raman, col.5, lines 11-19, *bold, underline, etc*; Nielsen, col.2, lines 3-12; *non-textual display information outputted based on stylesheet*).

As per claim 24, the product of Raman and Nielsen teaches the software product of claim 23 wherein the style information is selected from the group consisting of bold, italics, underline and font color (Raman, col.5, lines 11-19, *bold, underline, etc*; Nielsen, col.2, lines 3-12; *non-textual display information outputted based on stylesheet*).

6. Claims 10-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raman (US 6,289,312) in view of Giuliani et al. ("Giuliani", US 2002/0105496).



As per claim 10, Raman teaches outputting of textual and non-textual display information to a speech synthesizer (Raman, Fig.2, *speech synthesizer 160*; col.4, lines 17-18). However, Raman does not teach the output device to be a Braille display. Giuliani teaches the output of textual and non-textual display information to be a Braille display (para.3, lines 1-4; para.18, line 4; para.21, lines 9-11; para.42-43). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Giuliani's teaching with Raman's product in order to allow the blind the opportunity to read and determine the attributes associated with text via different senses.

As per claim 11, the product Raman and Giuliani teaches the software product wherein the non-textual display information is selected from the group consisting of font format, paragraph format, bulleting, numbering, borders, shading, column format, page breaks, section breaks, tab settings, table structure, image data, case settings, comment field locations, hyperlink settings, data entry forms, and graphic user interface configuration (Raman, col.5, lines 11-15; *font format*; Giuliani, para.42, lines 6-9; para.43; *bold text, borders*).

As per claim 12, the product of Raman and Giuliani teaches the software product wherein the schema module modifies the broadcast of the textual display information to communicate the non-textual display information by altering tactile characteristics of the Braille display (Giuliani, para.42-43; *intensity of trembling altered*).

As per claim 13, the product of Raman and Giuliani teaches the software product wherein the tactile characteristics of the Braille displayed modified by the schema module are selected from the group consisting of display speed, pin protrusion level, pin retraction level and pin vibration (Giuliani, para.42-43; *vibration*).

As per claim 15, Raman teaches the software product of claim 1 wherein the output device is a speech synthesizer (Raman, Fig.2, *speech synthesizer 160*; col.4, lines 17-18). However, Raman does not disclose the output device to be an array of a speech synthesizer and a Braille display, the speech synthesizer audibly broadcasts textual display information and the Braille display tactically outputs non-textual display information in substantially concurrent fashion. Giuliani teaches the output of textual and non-textual display information to be on a Braille display (Giuliani, para.3, lines 1-4; para.18, line 4; para.21, lines 9-11; para.42-43). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Giuliani's Braille display with the Raman's product in order to allow blind users the opportunity to listen to and visualize the display through touch.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raman (US 6,289,312) in view of Burchart ("Burchart", US 4,836,784).

As per claim 14, Raman teaches the software product of claim 1 to communicate textual and non-textual display information to a speech synthesizer (Raman, Fig.2, *speech synthesizer 160*; col.4, lines 17-18). However, Raman does not teach the output device to be an array of two Braille displays, a first Braille display outputs textual display information and a second Braille display outputs non-textual display information in substantially concurrent fashion. Burchart teaches the output of both textual information and graphics on an array of Braille displays (Fig.2-6; col.5, lines 38-64; claim 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Burchart's teaching with Raman's product in order to

communicate graphic displays in addition to textual information to accommodate the blind and thereby enhancing the viewing experience of the blind user (Burchart, col.1, lines 25-34, 47-52).

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raman (US 6,289,312) in view of Rohen ("Rohen", US 5,186,629).

As per claim 16, Raman teaches outputting of textual and non-textual display information to a speech synthesizer (Raman, Fig.2, *speech synthesizer 160*; col.4, lines 17-18). However, Raman does not teach the output device to be an array of a speech synthesizer and a vibratory apparatus, the speech synthesizer audibly broadcasts textual display information and the vibratory apparatus vibrates at pre-selected frequencies responsive to non-textual display information in substantially concurrent fashion. Rohen teaches an output device which audibly and tactilely outputs textual and non-textual display information respectively (col.6, lines 23-32; col.7, lines 7-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Rohen's teaching with Raman's product in order to allow blind users the opportunity to visualize the display through the use of multiple sensory functions rather than solely by means of sound.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on alt. Mon & Tue/Wed 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Chow can be reached on 571-272-7767. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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